

## CLAIMS

What is claimed is:

1. A modular system comprising,  
  
at least one module,  
  
a module sensor associated with each module adapted to sense objects fed to the module,  
  
the one module including information on the distance between a position of the sensor and at least one edge of the module and a location of at least one other,  
  
a communication system wherein said module senses objects being transported therein and the communication system is adapted to allow the module to communicate information including information related to events, velocity, and distance to another module.
2. The modular system of claim 1 further including  
  
a second module mechanically coupled to the one module by an alignment plate, wherein  
  
the alignment plate includes at least one upstream socket mechanically mated with at least one downstream foot of the one module and at least one downstream socket mechanically mated with at least one upstream foot of the second module.
3. The modular system of claim 1 further including the one module coupled to at least the one additional module wherein the communication system includes a bus node coupled to each modules processor system, wherein actors and sensors within each module are coupled

to the processor system, wherein the bus node is connected via an outside bus segment to the bus node of an upstream module and coupled to a second end of the outside bus segment to the bus node of a downstream module.

4. The modular system of claim 3 wherein a computer within one of the modules is coupled to the communication system as the host node,

the host computer including a data memory for storing information that uniquely (a) identifies each authorized module within a system and (b) uniquely identifies the modules employed and (c) uniquely identifies the upstream to downstream positions occupied by each module as a condition for gaining access to the system.

5. The modular system of claim 1 wherein the one module is coupled to a main external power cord to a public electrical power utility and a second and any additional modules are connected to a power source by a secondary power cord coupled from a powered module to an adjacent module thereby permitting each module to be moved from one position to a another within the modular system.

6. A modular franking machine for processing empty or filled envelopes into fully or partially finished mailpieces, the machine comprising,

First and second envelope actors and sensors within at least first and second modules for moving envelopes along an envelope processing path through the modules and for sensing the location of an envelope within each module

Memory within each module storing the distance between the sensors and at least one of the upstream and downstream ends of the module,

the second module coupled downstream from the first module within the processing path, the second module including a processor system with memory for storing a table of data on each module including combinations of different modules,

a computer including a processor and memory, for calculating and printing postage for each envelope fed through the machine and coupled to a system bus by a bus node controller

wherein the host module includes information pertaining to each module within the machine to identify to the host bus module additions and removals of modules from a franking machine.

7. The modular franking machine of claim 6 wherein based on the modules present in the system at startup, each module is assigned its neighbour upstream and downstream modules to enable each module to monitor and react properly on broadcasts of these modules without burdening the host or master module.

8. The modular franking machine of claim 7 wherein the broadcast are signals, telegrams, messages or status information.

9. The modular franking machine of claim 6 wherein each module is capable of broadcasting information on the letter flowing through the modular system on a multimaster field bus.

11. The modular franking machine of claim 6 wherein any or each module is capable of sending information on the letter flowing through the modular system on a point to point communication bus, the point to point addressing being dynamically set up at startup based on the assignment of the neighbour upstream and downstream modules.

12. The modular franking machine of claim 11 wherein the information is position, velocity, length, weight or identifier data.